

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for extracting a watermark signal contained in a watermarked digital image sequence, having two or more frames represented by pixel values, wherein the watermark is extracted without using frames from an original unwatermarked digital image sequence, comprising the steps of:

a) estimating pixel correspondences between one or more pairs of frames in the watermarked digital image sequence;

b) ~~computing a~~ computing one or more displaced frame difference differences for one or more frames in the watermarked digital image sequence using the pixel correspondences computed in step a) without reference to the original unwatermarked digital image sequence; wherein step (b) further comprises the steps of:

(i) computing, without reference to the original unwatermarked digital image sequence, one or more estimated frames using the pixel correspondence computed in step a), and each estimated frame, which is represented by estimated pixel values, has a corresponding frame in the watermarked digital image sequence;

(ii) subtracting estimated pixel values of each estimated frame from pixel values of the corresponding frame of the watermarked digital image sequence to produce the one or more displaced frame differences; and

c) extracting the watermark signal from one or more displaced frame differences.

2. (Canceled)

3. (Original) The method claimed in claim 1, wherein the correspondences are estimated using gradient-based optical flow.

4. (Original) The method claimed in claim 1, wherein the correspondences are estimated using block-based matching.

5. (Original) The method claimed in claim 1, wherein the correspondences are estimated using layered motion estimation.

6. (Original) The method claimed in claim 1, wherein the correspondences are estimated using a parametric region-based motion estimation.

7. (Original) The method claimed in claim 1, wherein the watermarked digital image sequence has been compressed to form a compressed image stream and at least a portion of the correspondences are estimated from motion vectors available in the compressed image stream.

8. (Original) The method claimed in claim 1, wherein displaced frame difference for each frame is computed using the correspondences with one additional frame in the watermarked digital image sequence.

9. (Original) The method claimed in claim 1, wherein displaced frame difference for each frame is computed using the correspondences with two or more additional frames in the watermarked digital image sequence.

10. (Currently Amended) A system for extracting a watermark signal contained in a watermarked digital image sequence represented by pixel values, wherein the watermark is extracted without using frames from an original unwatermarked digital image sequence, having two or more frames, comprising:

a) means for estimating pixel correspondences between one or more pairs of frames in the watermarked digital image sequence;

b) means for computing a displaced frame difference for one or more frames in the watermarked digital image sequence using the pixel correspondences computed in step a) without reference to the original unwatermarked digital image sequence; wherein the means for computing further comprises:

(i) means for computing, without reference to the original unwatermarked digital image sequence, one or more estimated frames using the pixel correspondence computed in step a), and each estimated frame, which is represented by estimated pixel values, has a corresponding frame in the watermarked digital image sequence;

(ii) means for subtracting estimated pixel values of each estimated frame from pixel values of the corresponding frame of the watermarked digital image sequence to produce the one or more displaced frame differences;

and

c) means for extracting the watermark signal from one or more displaced frame differences.

11. (Previously Presented) The system claimed in claim 10, wherein the means for computing the displaced frame difference further includes means for forming an estimated frame and means for subtracting the estimated frame from the corresponding frame in the watermarked digital image sequence.

12. (Original) The system claimed in claim 10, wherein the means for estimating correspondences employs gradient-based optical flow.

13. (Previously Presented) The system claimed in claim 10, wherein the means for estimating correspondences employs block-based matching.

14. (Original) The system claimed in claim 10, wherein the means for estimating correspondences employs layered motion estimation.

15. (Original) The system claimed in claim 10, wherein the means for estimating correspondences employs parametric region-based motion estimation.

16. (Original) The system claimed in claim 10, wherein the watermarked digital image sequence has been compressed to form a compressed image stream and the means for estimating correspondences employs at least a portion of the motion vectors available in the compressed image stream.

17. (Original) The system claimed in claim 10, wherein the means for computing the displaced frame difference for each frame employs correspondences with one additional frame in the watermarked digital image sequence.

18. (Original) The system claimed in claim 10, wherein the means for computing the displaced frame difference for each frame employs correspondences with two or more additional frames in the watermarked digital image sequence.